

Course Syllabus and Reading Assignments for Physics 3327, Fall 2011

Date	Subject	Chapters in Heald and Marion	Supplementary material
Aug 24	Intro Lecture		
Aug 26	Static electric and magnetic fields	1.1,1.2,1.4,A1-A5,D,E	
Aug 29	Dielectric media	1.3	
Aug 30	Discussion Section (4:30-5:30 Rock 112)		
Aug 31	Magnetic materials	1.5-1.8	
Sep 2	Electric dipole (regular time)	2.1-2.3	
Sep 2	Electric quadrupole (Makeup Lect. 2:30pm Rock 102)	2.4,2.5	
Sep 5	Labor day		
Sept 6	Discussion Section (4:30-5:30 Rock 112)		
Sep 7	Magnetic multipoles	2.6	
Sep 9	Harmonic functions	3.1,3.2	
Sep 9	Legendre polynomials (makeup Lect 2:30pm Rock 102)	3.3	
Sep 12	Spherical harmonics	3.4	
Sept 13	Discussion section (4:30-5:30 Rock 112)		
Sep 14	Bessel functions	3.5-3.7	
Sep 16	No class		
Sep 19	No class		
Sep 20	Discussion Section (4:30-5:30 Rock 112)		
Sep 21	Bessel functions (2)		
Sep 23	Maxwell's equations	4.1-4.5	
Sep 23	Energy and electromagnetic field (Makeup Lect (2 :30pm Rock 102)	4.6-4.7	
Sep 26	Catch up lecture		
Sep 27	Discussion Section (4:30-5:30 Rock 112)		
Sep 28	Catch up lecture		
Sep 30	Maxwell stress tensor	4.8-4.9	
Sep 30	Electromagnetic waves (Makeup Lect)	5.1,5.2	
Oct 3	Complex fields	5.3,5.4	
Oct 4	Review by Dean in Discussion Section		
Oct 5	First Prelim 7:30-9:30pm in Rck 122 (No Class)		
Oct 7	Electromagnetic fields inside a conductor	5.5	
Oct 10	Fall break		
Oct 12	No Class		
Oct 14	Skin effect	5.6	

Oct 14	Reflection at normal incidence (makeup lect 2:30pm Rock 102)	6.1	
Oct 17	Fresnel equations	6.2	
Oct 18	Discussion Section (4:30-5:30 Rock 112)		
Oct 19	Total internal reflection	6.3	
Oct 21	Metallic surfaces	6.4,6.5	
Oct 21	Transmission lines (Makeup Lecture)	7.1,7.2	
Oct 24	Hollow conductors	7.3	
Oct 25	Discussion Section (4:30-5:30 Rock 112)		
Oct 26	TE and TM waves/optical fibers	7.4,7.5,7.6	
Oct 28			
Oct 31			
Nov 1	Discussion Section (4:30-5:30 Rock 112)		
Nov 2	Retarded potentials and fields	8.1,8.2	
Nov 4	Quiz		
Nov 7	Lienard-Wiechers potentials and fields	8.3,8.4	
Nov 8	Discussion Section (4:30-5:30 Rock 112)		
Nov 9	Radiation from moving charges (Dean Subs)	8.5,8.6 (9.1,9.2,9.3,9.4 reading only)	
Nov 11	Special relativity; four-vectors	14.1-14.4	
Nov 11	Catch up (Makeup Lecture)		
Nov 14	Examples (Dean Subs)		
Nov 15	Discussion Sec. Review (4:30-5:30 Rock 112)		
Nov 16	Field tensor (Dean subs)	14.5-14.9	
Nov 16	Second Prelim (Shankar Proctors)		Finish "Boy who Harnessed the wind"
Nov 18	Energy Momentum tensor	14.10-14.12	
Nov 21	Work on projects with teams		
Nov 23	Work on projects with teams		
Nov 25	Thanksgiving		
Nov 25	Thanksgiving		
Nov 28	Student Project Presentations Groups 1,2		
Nov 30	Student Project Presentations Groups 3,4		
Dec 2	Student Project Presentations Groups 5,6		
Dec 2	Student Project Presentations Groups 7,8		
Dec 4-7	Study Period		
Dec 9	Final Exam 2:00pm – 4:30pm	Everything	